

The UArctic Magazine

Shared Voices

2023



UArctic

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THE UARCTIC MAGAZINE
Shared Voices 2023

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Letter from the President



By LARS KULLERUD
President, UArctic

When I was writing my letter for the 2022 Shared Voices Magazine, Arctic cooperation had just suffered a big blow. I concluded the letter by stating that “the future cannot exist without education and research cooperation. The future of the Arctic needs to be handled by coming generations, and it is up to the present generation to make their task as manageable as possible.”

The future of the Arctic depends on our capability to work together in matters that are of common interest. I am writing this letter at the end of March 2023, just when the Norwegian chairship of the Arctic Council has announced their priorities for 2023-2025. Collaboration in the Arctic will continue – it must continue – so that the global community is better prepared for the impacts of the changing climate, but obviously it will not be the same as before.

Norway’s chairship bases their national priorities on the first Arctic Council Strategic Plan, adopted in Reykjavík in 2021. There are four priority topics: the oceans, climate and environment, sustainable economic development, and people in the North. In addition, the program includes the cross-cutting topics Arctic youth and Arctic Indigenous peoples. The chairship program also emphasizes the need to strengthen the scientific basis for management of the environment and activities in the Arctic, as well as the importance of including local and traditional knowledge in the Arctic Council’s work.

These same priorities and topics will also form the framework for the Arctic Congress Bodø 2024. The Congress brings together three organizations and their events: UArctic, the International Arctic Social Sciences Association (IASSA), and High North Dia-

logue. Hosted by Nord University and Nordland Research Institute in Bodø, Norway on May 29–June 2, 2024, the event features a common Congress program, as well as each organization’s individual Assembly and business meetings.

Since 2018, UArctic Congresses have adopted the themes and priorities of the Arctic Council chairship program, and they have also been organized in partnership with the chairship program in the country chairing the Arctic Council. We are proud to follow that tradition with the Arctic Congress Bodø 2024 with our partners. By joining forces and bringing together the expertise of three key Arctic organizations, the event will be a true showcase of Arctic education and research cooperation. It will also be a fantastic opportunity for academics and students from different fields, the present and coming generations, to find new inspiration and new collaborators.

As I said back in 2022, “the future cannot exist without education and research cooperation.” Faced with large-scale global challenges, this statement becomes more and more urgent every year. With the ongoing energy challenges, the world is being driven to implement the desired green shift faster than anyone would have dreamed of two years ago. This is of course welcome, but it will also create new challenges in the Arctic through the increased demand on resources and the resulting need to quickly implement e.g. windfarms and new mining, all with their own potential conflicts.

Together with our members and partners, UArctic will continue to create and share knowledge on issues that are of relevance to the Arctic and its peoples, as well as knowledge that benefits the global community in their efforts to ensure a sustainable future for the whole planet.

Editorial



By OUTI SNELLMAN
Secretary General, UArctic

UArctic celebrates 25 years since the signing of the Iqaluit Declaration of the Arctic Council in the UArctic Assembly, the annual meeting of all its members, in Québec City, Canada on 22-26 May 2023. The Iqaluit Declaration established UArctic. What initially was a network of universities to connect the East and the West in an inclusive way is now a thriving, huge organization linking the North and the South, the small and the big, in a global effort to address the largest challenges facing humanity.

Twenty-five years ago, the Circumpolar North was exhilarated about the signing of the Iqaluit Declaration, not only because of UArctic but also because of a fundamental belief that the Arctic nations and its various organizations can unite their efforts for the good of the environment, for the good of the peoples, and for peace. Today UArctic as well as the Arctic's inhabitants are faced with an entirely different, almost dystopian, reality. A massive rift again dominates the relations between the East and the West in the Arctic, and huge environmental problems, climate change in particular, are nearing tipping points.

While the Arctic states have made progress on Indigenous rights over the last quarter-century, there still remain critical issues of political debate across the region. It is important that education institutions create meaningful partnerships with Indigenous peoples' organizations and play a constructive role in these discussions.

At times like this, we still need to celebrate our successes and the 25 years of human connections in research and education in the Circumpolar North. With almost 200 member institutions, UArctic now has the brain power to really make a difference. Almost a thousand researchers participating in the UArctic Thematic Networks and Institutes and as UArctic Chairs – there should be no room for hopelessness!

Let's first celebrate and then roll up our sleeves and get to work. It is not too late.

//
UArctic now has the brain power to really make a difference.

Imagining Possible Futures

Through Circumpolar Partnerships

Panel discussion in the
Iavvu during the 2022
Arctic Arts Summit

Photo: Andrew Strain / Government of Yukon



By AUBYN O'GRADY
Program Director,
Yukon School of Visual Arts

TIMO JOKELA
Lead of the UArctic Thematic Network on
Arctic Sustainable Arts and Design,
UArctic Chair in Arctic Art, Design and
Culture, Professor, University of Lapland

The invasion of Ukraine by Russia suspended partnerships between Russian institutions and UArctic's Thematic Network on Arctic Sustainable Arts and Design (ASAD). The focus of ASAD's initiatives has now shifted towards forming partnerships within the Canadian Arctic with the overall goal of the network to promote art, culture, and education for Arctic sustainability. In 2022-2023 this new collaboration has been demonstrated by two circumpolar events: the Arctic Arts Summit (AAS) held in Whitehorse, Yukon in July 2022, and the ASAD network's tenth annual Relate North Symposium and Exhibition, hosted by the Yukon School of Visual Arts and Yukon University in January 2023.

Prior to the Whitehorse event, the Arctic Arts Summit was last hosted in Rovaniemi, Finland in 2019. The focus was primarily on disseminating and discussing the work of researchers, with the ASAD network's research guiding many of the conversations. Five key priorities for the sustainability of art and art education in the Arctic were highlighted: (1) global politics and ecological crises; (2) relations of Indigenous and non-Indigenous art; (3) "handmade"; (4) place-making, revitalization, and regional development; and (5) economy and sustainability. These priorities speak to the challenge for many ASAD network partners; the challenge to make art and arts-based research that can move between the worlds of art and academia, while also being legible to the broader communities our work circulates in or draws from.

The organizers of the third Arctic Arts Summit in Whitehorse focused on showcasing circumpolar Indigenous visual and performing arts. The event was animated by many performances, artist exhibitions, and panels that included the voices of artists, academics, and representatives of Arctic arts organizations, non-profits, and national arts councils. The ASAD network also organized two panels at the Summit.

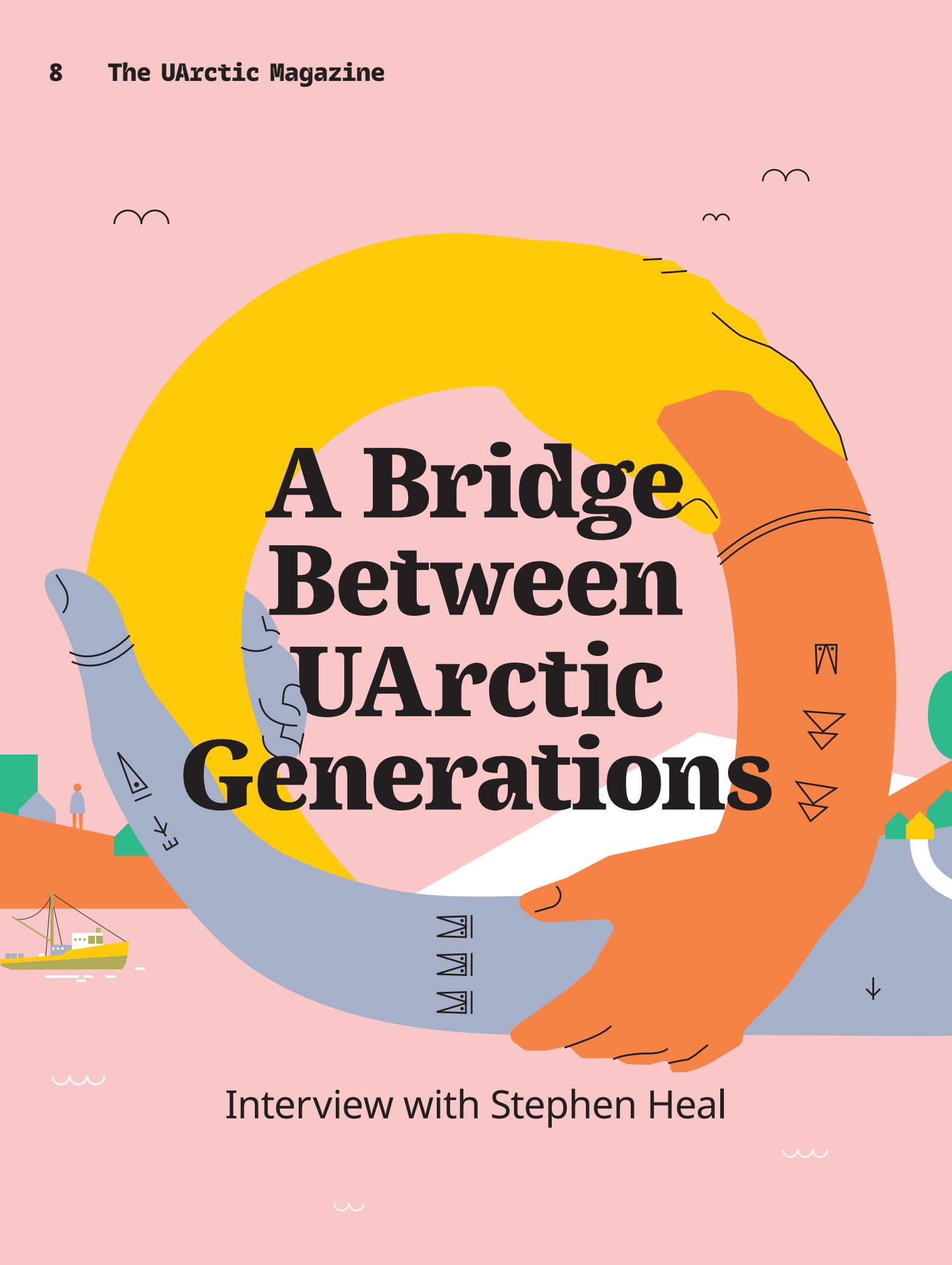
The Indigenous and Northern Collaborative Research and Education Engagement Fund – funded by Global Affairs Canada, and channeled through UArctic for developing new cooperative projects on networking activities related to Arctic research and education – enabled the Yukon School of Visual Arts (Yukon SOVA) to host the Relate North 10 Symposium and Exhibition. This is a significant new partnership for Yukon SOVA, a small visual arts school in the sub-Arctic community of Dawson City, Yukon, situated within the Traditional Territory of the Tr'ondëk Hwëch'in. Yukon SOVA is located in the Applied Arts Division of Yukon University, and co-governed by the Klondike Institute for Arts & Culture, and the Tr'ondëk Hwëch'in Government.

The theme of Relate North 10 was Possible Futures; a direct engagement with one of the themes identified by the 2022 Arctic Arts Summit. Arctic communities are at the forefront of imagining alternative futures in a rapidly changing present. Across the ASAD network there are many examples of initiatives that are actively working towards creating alternatives, from land-based ed-

ucational projects to the inclusion of Indigenous language and cultural revitalization programming, and to collaborations between community-led and arts-based researchers and scientists. Relate North 10 was about cultivating circumpolar relations between the network partners to mobilize and share examples of what works at each research and creative site. The symposium also involved discussions about how to ethically and intentionally evolve institutions, projects, and practices to align with, support, and enact the many possible futures that have already been envisioned in the Arctic.

There is great potential and a growing need for sustainable arts, design, and creative industries to support the wellbeing of Arctic residents through transatlantic collaborations such as the ASAD network. As Arctic regions continue to experience the accelerated effects of climate change, global geopolitical tensions, and resource development pressures, it is a critical time to bring Canadian, American, and Scandinavian arts institutions together to share knowledges, experiences, best practices, and projects being done to address global issues that are felt regionally, particularly for those in the North. The Relate North 10 Symposium and Exhibition is an example of the kind of partnership that is necessary to collectively imagine possible futures in the Arctic.

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Arctic communities are at the forefront of imagining alternative futures in a rapidly changing present.



A Bridge Between UArctic Generations

Interview with Stephen Heal



By FRANCESCA STOPPANI
Freelance Writer, Former UArctic Intern

On the occasion of UArctic’s 20th anniversary seminar, held in Rovaniemi in September 2021, we honored the memory of Bill Heal who was one of UArctic’s Founders and the person behind the original idea of UArctic. At that event we welcomed Bill’s son, Stephen, who announced the launch of a UArctic Founders’ Fund – the Heal Fund.

The Heal Fund aims to bring people from around the Arctic community together and provide scholarships for students and early career researchers in the Arctic, including those of Indigenous background. The initial goal for the fund was reached thanks to generous contributions from many UArctic Founders alongside the Heal family’s seed donation. A year and a half after the launch, we invited Stephen for a conversation about the future of the Heal Fund and his vision for the UArctic Founders’ continued engagement.

Your father was deeply involved in UArctic in the early days. How did your engagement with UArctic begin?

“As I was growing up, my father would talk about his work with the International Biological Programme (IBP), so I would hear about the tundra, the peoples and the ecosystems of the Arctic.” Stephen also met his father’s colleagues, including some of the UArctic Founders, at the family home in northern England. “At that time, before UArctic’s founding, how to conduct great science was always the conversation, and the Arctic was always the setting.”

When Bill passed away in early 2021, Stephen got in touch with some of his father’s collaborators, namely UArctic Secretary General Outi Snellman and UArctic Pres-

ident Lars Kullerud. “They invited me to Rovaniemi to take part in the 20th anniversary celebrations. That was actually my first time in the Arctic and my first time interacting directly with UArctic.”

The Heal Fund was established to foster collaboration and support early-career researchers and youth through scholarships. What are your hopes for the future of the Fund? Why is it important to support youth and especially Indigenous youth?

“The purpose of the Fund is two-fold. On one hand, it is symbolic: it provides a permanent connection between the Founders and future generations – I hope it will help pass on the values that shaped UArctic in its foundation. On the other hand, it will highlight that it is possible to share and collaborate across borders in the Arctic. This is one of the reasons why UArctic was founded - to bring people together, people who may not otherwise meet, to share resources around the North in order to benefit the North. My father knew that bringing people from different perspectives, disciplines, and experiences together can be the most powerful act toward solving common problems. I hope that the Heal Fund, even in its first years, will emphasize that.”

Instead of giving one or two scholarships per year, Stephen envisions being able to support up to a hundred students, graduates or doctoral candidates in the future. “Under the right conditions, little things tend to grow. The Founders’ Fund is a big idea with a small start, and I hope it will grow just like UArctic has grown from a handful of founding institutions to nearly 200 members and tremendous interest from all over the world.”





Bringing people together can be the most powerful act toward solving common problems.

To be fully future-oriented, the Heal Fund will focus on youth and the transmission of values across generations. "In a way, I am a bridge between the past and the future, being the son of a UArctic Founder, trying to set up things for the next generations of people in the North." UArctic has always emphasized the inclusion of Indigenous peoples in decision-making, in capacity-building, and in finding solutions to the challenges that are now all the more in the focus compared to twenty years ago. "I think it's really important to continue that. Supporting sustainable development of northern economies cannot be done without involving the local people in decision-making processes so that we get to better solutions and outcomes for all. That's why we will also strive to enhance Indigenous engagement through the Heal Fund."

Together with you, UArctic has been reconnecting with its Founders and getting them re-engaged. Why is the Founders' involvement important now, twenty years later?

"Many of the Founders are still actively involved in UArctic today," Stephen clarifies. He thinks this is a great asset. "We are fortunate that we can access the knowledge, perspectives and networks of the Founders today. We invited them for a roundtable discussion in Reykjavik in October 2022, to reconnect and discuss the future of UArctic and the Founders Fund. We will arrange more opportunities like this to ensure the Founders' insights are not forgotten. Many of the challenges that existed twenty years ago are still very much challenges today – in fact even more pressing. The fact that UArctic now exists as a vibrant, active and connected network means that we are in a better position to help address these challenges."

"My father used to say that the Antarctic gets all of the attention, and funding. It was hard to get noticed in the Arctic." Today, climate change has changed that, and made the Arctic much more the centre of attention. "The Arctic is warming and changing faster than much of the rest of the world. The opening up of trading routes and opportunities in the Arctic Ocean and the geopolitics of that interest is much more active than it was twenty years ago."

One of the big debates in the economics of climate change is how to take into account the interests of future generations. In the context of UArctic, and the North more generally, it makes sense now to look to the generation of the Founders and ask how to transfer their ideas and principles to help us make the right decisions today for future generations of students, scientists and citizens. "I feel very comfortable working for UArctic as an intergenerational link in that chain. With the Heal Fund I hope we can pass on some sense of the history of UArctic and its values."

What are your visions and hopes for UArctic in the next twenty years?

"Universities have a habit of sticking around for hundreds of years. I believe this will be the case for UArctic as well. If networks are valuable, they will grow and strengthen further. If we look twenty years in the past, then twenty years into the future, we can perhaps see just a few of the generations involved in this process."

Ideally, Stephen would like to see UArctic playing a very active role in tackling the challenges faced by the environment, people, infrastructure, businesses, and economies of the North. "But it is for the participants of the UArctic network to decide how they best use its resources. I would love to see that the people who have received support from UArctic and the Founders' Fund have gone on to do things for the North in the North."

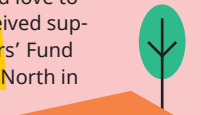
Finally, you mentioned that 2021 was the first time you visited the Arctic. What was your first impression?

"The first impression was one of warmth. When you think of the Arctic, from the southern perspective you think of the cold, you think of ice and beauty, in a simplistic view. But when you actually arrive, it's a place where the warmth of the reception and of the people stands out. That was the reception I found from the people of UArctic community when we first met in Rovaniemi. That warmth has held every time I've met them since. It gives me even more hope that UArctic and its principles are in a good place, in the hands of good people."

If you would like to contribute to building an endowment for UArctic, or you simply want to know more, please contact UArctic's fundraising staff at donate@uarctic.org.



List of UArctic Founders:
www.uarctic.org/founders



Introducing

Mike

Sfraga

UArctic Engagement
Throughout the Years

By DIANE HIRSHBERG, Vice-President Academic, UArctic, Director, Professor of Education Policy, Institute of Social and Economic Research, University of Alaska Anchorage

Tell me about your engagement with UArctic?

I became involved in UArctic soon after its inception, supporting and advocating throughout the University of Alaska system the concept of an Arctic university "without walls."

What positions have you held?

I have served alongside my good friend and colleague Dr Ross Virginia of Dartmouth College as the co-creators and co-directors of the Institute for Arctic Policy (IAP), the first sanctioned UArctic Institute that convened international symposia focused on matters related to Arctic policy.

Ross and I built upon the UArctic IAP to create and then co-direct the Department of State's Fulbright Arctic Initiative (FAI), now in its third iteration and led by two FAI alumni. UArctic played an important role in our inaugural activities and programs. I also served as UArctic Head of Delegation during the US Chairmanship of the Arctic Council.

How has your involvement in UArctic shaped your understandings of the Arctic and the issues we should study and research?

UArctic has highlighted the power of collaborative, international education and research driven by local, regional, domestic, and circumpolar priorities as defined by the communities each member institution serves.

Where would you like to see UArctic head over the next decade?

UArctic is needed now more than ever – to ensure that education and research is as cooperative and integrated as possible. As the Arctic becomes more globalized and ever-more integrated into, and impacted by the broader geopolitical landscape, UArctic should play a key role in transforming, facilitating, and expanding educational and research initiatives that meet the demands of our shared Arctic.



Photo: Wilson Center

Mike Sfraga

Mike Sfraga, PhD serves as chair of the US Arctic Research Commission. He is the nominee to serve as the first US Ambassador-at-Large for the Arctic Region. Dr Sfraga was the founding director of the Polar Institute and served as the director of the Global Risk and Resilience Program at the Woodrow Wilson International Center for Scholars in Washington, DC. He currently serves as chair and distinguished fellow in the Polar Institute.

Sfraga served as distinguished co-lead scholar for the US Department of State's Fulbright Arctic Initiative from 2015 to 2019. He previously served in several academic, administrative, and executive positions at the University of Alaska, including vice chancellor, associate vice president, faculty member, department chair, and associate dean. Sfraga earned the first PhD in geography and northern studies from the University of Alaska Fairbanks.

Building the Best Response System for

Lland

in Svalbard

By HANNE H. CHRISTIANSEN
UArctic Chair in Permafrost Physical Processes, Professor of Physical Geography, University Centre in Svalbard

MARIUS O. JONASSEN
Associate Professor of Meteorology, University Centre in Svalbard

We live in Longyearbyen, Svalbard's main settlement, located in a narrow valley with steep slopes. Having lived here for more than twenty and ten years as citizens, we care very much about how the local society is functioning, and how it can best handle the effects of the recent large warming that has occurred. For this work, we won the Frederik Paulsen Arctic Academic Action Award in 2022 with our PermaMeteoCommunity project.

Svalbard is a hot spot of climatic warming. This is particularly evident in autumn and winter: the air temperature has increased by up to seven times compared to the global average over the last few decades, and the amount of precipitation has also increased. Both air temperature and precipitation are projected to continue to increase in the future, as will the number of extreme weather events.

In 2016 we experienced a warm summer followed by a warm autumn. When a 20-millimetre rainstorm hit Longyearbyen in mid-October, we woke up to several landslides, some of which reached the infrastructure in and around Longyearbyen. The unfrozen active layer above the permafrost had become water-saturated and

slid down the lower hillsides. Roads had to be closed. In early November of the same year, we measured 75 millimetres of rain in Longyearbyen. A large part of the population was evacuated due to the risk of landsliding, but only little sliding happened this time. Our investigations revealed that this was due to the active layer being partly refrozen – luckily. However, there was no data directly available to show this during the event.

Clearly, we had identified a need for tools to assist the community when deciding how to best protect the settlement and its inhabitants during such rainstorms. Working at the University Centre in Svalbard, UNIS, we have now started to gather key real-time data such as air and ground temperature from the slopes of Longyearbyen. This happens in collaboration with our geotechnical colleagues at UNIS in the PermaMeteoCommunity strategic project and together with local and national partners.

With Longyearbyen local authorities, a partner in the PermaMeteoCommunity project, we are integrating their existing observations of air and ground temperatures measured in different parts of Longyearbyen into the response system we are currently developing. The local telecom company Telenor

Students hand-drilling into the lower slopes of upper Longyeardalen valley in June 2022.



Photo: Knut Tveit

Photo: Hanne H. Christiansen

Sliding

“
The live data helps us in the decision-making towards natural hazards.

is responsible for data transfer and further development of data storage and presentation together with all project partners.

“We are experiencing a rapidly changing climate that produces a lot of uncertainties. The live data collected in the project will help us in the decision-making towards natural hazards such as landslides. It will also enable us to better predict the future conditions and help us to better manage our infrastructure so we can build a sustainable society today for the future,” says Kjers-ti Olsen-Ingerø, leader of the technical department at Longyearbyen local authorities.

The response system will also include ground temperature observations below the infrastructure in town. This will enable us to quickly observe any changes that might require immediate action. So far, temperature sensors have been installed under the Longyearbyen Culture House by Longyearbyen local authorities and our UNIS colleague Aleksey Shestov.

An important part of developing the best possible response system is getting more information about how much ice the permafrost and active layer contains, and how much sediment is filled into the Longyearbyen valley. This is being investigated by our project PhD student Knut Tveit. “I chose to do this PhD, because I want to use my skills and my knowledge, and at the same time learn more, to increase resilience in our community against permafrost geohazards. Active layer slides and landslides are becoming more and more frequent here due to climate change. My data will go into the background information for the response system that we are building.”

In PermaMeteoCommunity, we also involve UNIS students of different levels to obtain more data based on which we can build the response system. For instance, a group from the course on geohazards and geotechnics in high Arctic permafrost regions drilled an additional borehole for taking measurements and provided analyses that we now use in our project. We also have students doing their Bachelor’s theses, Master’s theses, and internships with us. This is a very important part of the PermaMeteoCommunity project: providing opportunities for students that have a real-life impact.



THE FREDERIK PAULSEN ARCTIC ACADEMIC ACTION AWARD

The Frederik Paulsen Arctic Academic Action Award provides high-level recognition for innovative ideas that transform knowledge into action to help address the impacts of climate change in the Arctic. It comes with a 100,000 euro unrestricted prize, intended to help develop the idea through outreach, engagement and communication. The award is a joint activity of UArctic and the Arctic Circle.



www.uarctic.org/actionaward





Fighting Global Sea Level Rise in Greenland

In Search of Sustainable Co-design
with Locals

Photos: Ilona Mettäinen



By ILONA METTÄINEN
 Vice-lead of the UArctic
 Thematic Network on Frozen
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 Lead of the UArctic Thematic
 Network on Frozen Arctic
 Conservation, Research
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The melting of the Greenland ice sheet has the potential to increase global sea levels by tens of centimeters during this century. The exact amount depends on the surface melting which increases with global warming, and on the calving of icebergs where huge glaciers drain the interior icesheet. While Greenland has raised sea levels by about 0.5 millimetre per year over the past decades, it will be contributing ten or even a hundred times that by the end of the century.

Knowing it is happening is one thing, but can we do anything about it? Reducing greenhouse gas emissions is clearly central to slowing surface melting, but that will not help with the ocean heat that has accumulated over the last century and will remain for long into the future. In a Nature article in 2018, our group suggested that limiting

the access of deep warm waters to the important icesheet outlet glaciers might limit the acceleration in iceberg calving losses.

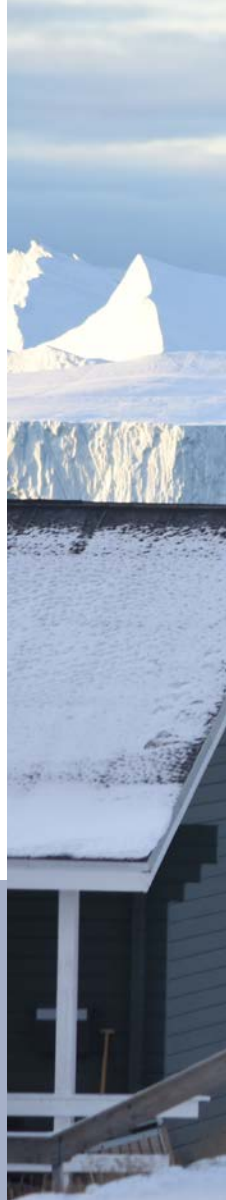
The Sermeq Kujalleq, or Jakobshavn Glacier as it is widely known, is the source of the breathtaking icebergs in the world-famous Ilulissat Icefjord in West Greenland. The glacier is the Arctic's largest contributor to rising sea levels, adding four centimetres during the 20th century. A multidisciplinary research team led by professor John Moore from the Arctic Centre of the University of Lapland has studied ice sheet conservation by seabed anchored curtains in the Ilulissat Icefjord since 2021. This work has taken place under the GRISCO project (short for "Greenland ice sheet conservation as a community designed response to climate change - co-production of knowledge for ensuring sustainability"), funded by the Nordic Council of Ministers' Arctic Cooperation Programme.



Can we design active conservation of the icesheet in a locally acceptable way?



Fishing boat in Ilulissat, Greenland.



While the ultimate target in developing ice sheet conservation is to stabilize the enormous and highly vulnerable Thwaites Glacier – the “Doomsday Glacier” – in Antarctica, the Greenland outlets are technically less challenging. However, unlike Antarctica, Ilulissat has a thriving population. That is why in Greenland one cannot plan an intervention affecting the fjord and glacier without incorporating local sustainability aspects in the design, such as impacts on fishing and tourism livelihoods. Therefore, the big question is whether active conservation of the icesheet can be designed in a way that is also locally acceptable.

Ilulissat is Greenland’s 3rd largest town with 4,700 inhabitants, lots of fishermen, and a growing number of tourists. Ilulissat means icebergs in Greenlandic, and the first settlement Sermermiut and the iconic Icefjord are a UNESCO World Heritage Site. This means that its proactive conservation from

the impacts of climate change is a duty of both Greenland and the international community as a whole.

The local significance of the Icefjord, the icebergs, and discovering which aspects define local acceptability and sustainability have been the focus of our research. This co-design process is emphatically not a straightforward consultation exercise. Public engagement and knowledge co-production has involved multidisciplinary work combining Arctic social sciences, natural sciences and Indigenous knowledge by collaborative methods. The process has included community workshops, school collaboration, art, interviews, and discussions with key organizations in Greenland during three research visits in 2021-2022.

The UArctic Frederik Paulsen High-level Seminar focusing on Greenland ice sheet conservation took place in Reykjavík, Ice-





Streets of Ilulissat, Greenland.



Jakobshavn Glacier is the Arctic's largest contributor to rising sea levels.

land in October 2022 as a pre-event of the Arctic Circle Assembly. The seminar was the first major public activity of the newly established UArctic Thematic Network on Frozen Arctic Conservation. We gathered together glaciologists, environmental economists, and human geographers with Indigenous leaders from Greenland and deep-sea engineers.

The seminar has led to wider collaboration with the community, the Thematic Network, and with various NGOs. Prompted by com-

munity inputs, the engineers have been working on new “100% natural” solutions. Radical economic, policy, and legal proposals for financing interventions and providing governance frameworks designed to empower Greenland populations are being written. Moreover, an exhibition that came out of the Youth Science-Art workshop at a local school in Ilulissat is on display in Ilulissat and will be later transferred to the Arktikum Science Centre in Rovaniemi.

We intend to return to Greenland in 2023 to talk with people in Ilulissat and Nuuk, and to present our findings that address the knowledge needs raised in ongoing conversations with the locals. Decisions on actually doing any intervention await several years in the future, but it is important that Greenlanders have sufficient knowledge for making an informed decision when the time comes.



Financing a More Sustainable



By HANNELE PALVIAINEN, Philanthropic Communications Coordinator, UArctic

With global warming advancing much faster than earlier assumed, the world is getting dangerously close to crossing several climate tipping points. Most of them are associated with the polar regions, and each will have severe global consequences, impacting the lives of hundreds of millions of people. It is still possible to take action to avoid them, but we need to develop solutions now, and we need wide-reaching collaboration to get there.

On March 7, UArctic brought a team of influential voices to a climate change-focused client event at Investec, a bank and wealth manager in London, with the aim to raise awareness around tipping points and explore new avenues for collaboration. The keynote speech was given by His Serene Highness Prince Albert II of Monaco, a long-time advocate of sustainability and climate issues as well as a key supporter of UArctic. HSH also joined a panel discussion with UArctic President Lars Kullerud, UArctic Board Chair Frederik Paulsen, UArctic Board member and Greenlandic MP Aaja

Chemnitz, and Investec Senior Director Max Richardson.

Investec strives towards increasingly sustainable business using the UN Sustainable Development Goals as the framework. In his work as Senior Director, Max Richardson focuses especially on issues related to climate change. He identifies two major roles for finance in this context: mitigation and adaptation.

“The energy transition and transformation we need to affect is enormous. We need to retire fossil fuels and create new capacity based on clean sources of energy. At the same time, we need to double electricity production and start to apply electricity to new things like transportation. Mitigation is a big part of this transition, and that requires us to align our portfolios with the Paris Agreement. But we’ve actually passed or are close to passing a number of tipping points, so we need adaptation finance as well. We need to finance a more resilient world – more resilient food systems, water systems, and infrastructure – to the effects

of climate change, both those that are already here and those we are going to get no matter what.”

It does, however, take considerable effort to try and change the global economy, especially when faced with challenges we have not seen before. At Investec, Max tries to be an agent of change, bringing attention to the key issues and promoting action.

“There is this concept about four clocks. The first clock is the climate reality, and that keeps exact time. Then you have the clock of scientific understanding which has really caught up in the last couple of decades. It’s always going to be slightly behind, but it’s very, very close. Finally, you have the clock of public perception and the clock of the business community and their understanding and action. Those two have also caught up, but they’re still quite a long way behind. My role is to help the last two clocks catch up in the business and finance arena; to inspire people to learn what is happening and to do something. We need to educate our clients, and we need



We need to foster more collaboration between finance, industry, and academia.



to raise awareness. The event with UArctic was a great example of that – raising awareness of tipping points and climate instability, and the role that private individuals and their finance will play.”

“At many organizations, the cohort of people who are driving change is actually quite small, so a big part of my role is to raise awareness internally as well. I had colleagues coming up to me at the event saying it was really educational. I’ve been studying climate change-related topics for a few years, and even I learned things as I was preparing for the panel discussion that I hadn’t come across before. I was particularly shocked about the cascading effect of the tipping points, and how a number of them are highly likely even within the range of the Paris Agreement temperatures – which we’re probably going to exceed. So there’s a huge amount of work to do; it’s only just begun. The event with UArctic was a great call to action to the people there: to understand that they’re not going to be experts overnight, but there’s more to learn.”

In the panel discussion, Max made the point that finance and economics need to evolve towards a more regenerative systems thinking way of operating, towards understanding that climate, nature, society, and the economy are all embedded together in a complex system rather than separate from each other. This is also where the worlds of research and finance can work together to make a real difference.

“I’m trying to generate collaborative advantage. Climate change is a global challenge, and it needs a global response. To get there, we need to foster more collaboration between finance, industry, and academia. A multidisciplinary approach is really important to understand complex systems, and we do need to get better at understanding them, particularly nature and the environment. Academia should be coming up with the ideas to solve the problems we now face, but it needs support, momentum, and funding to actually execute it in the real world. That’s where finance can come in; hopefully we can help with that.”

The Arctic has not featured very much in Investec’s climate and sustainability thinking so far, but Max is hoping to see a change in that. The original legacy business of Investec is South African, and it is natural that the focus has mainly been on issues that are immediately important within that sphere.

“But the Arctic is important to Africa, actually, and the whole world. This is what I also meant by systems thinking – everything being connected. I was quite aware of the dangers of what is going on in the Arctic, but I don’t think that’s necessarily a widely held understanding. It is changing though.”

“One of the really important things that I’ve learned in this work is about keeping positive and not starting to lose hope, even if that happens quite easily particularly when you’re talking about tipping points. The macro collaboration between big institutions is important, but it is just as important to focus on the collaboration between people – keep everyone going, and not lose hope and despair. Talking in the event and seeing that people do engage with this topic are helping me remain hopeful.”

Strengthening UArctic's Scientific
Expertise with

UArctic

Challenges



What do the new UArctic Chairs focus on, and what are their ambitions?

By ARJA RAUTIO
 UArctic Vice-President Research, Professor,
 UArctic Thematic Networks and Research
 Liaison Office, University of Oulu

HELI NIITYNEN
 Planner, UArctic Thematic Networks and
 Research Liaison Office, University of Oulu

UArctic Chairs are highly qualified academics and leading scientists in their field who work as drivers in their area of expertise for the benefit of the Arctic. The Chairs develop research and education cooperation, including undergraduate, graduate, PhD, and postdoctoral scientist training, as well as build partnerships with the broader Arctic community.

Each Chair serves for a period of five years, funded and hosted by the nominating UArctic member institution. 14 new Chairs from Canada (3), Finland (3), Norway (3), the US (3), the UK (2), and France (1) started in their roles during the first half of 2022. Currently three of the total 15 Chairs are women. The Chairs represent diversity in regions, disciplines, and topics, and thus cover many aspects of Arctic-relevant knowledge. This variety is key to the successful implementation of UArctic Chairs.

In their first year of work, the new Chairs have been active in arranging meetings to discuss major issues in Arctic science such as the war in Ukraine, and collaboration with Indigenous communities, as well as ensuring that at least one Chair attends international science policy meetings. They have also begun organizing joint panels at major international meetings, the first of which took place at the 2022 Arctic Circle Assembly.



KIRK ANDERSON
 UArctic Chair for School Effectiveness and School Improvement,
 Memorial University of
 Newfoundland and Labrador

I seek to garner partnerships and support from partner universities, member groups, and funding bodies to promote and advance research. I also aim to develop northern-centric and interdisciplinary programming, so I am seeking out partnerships to support education programs for Indigenous and northern leaders related to STEM education. This would create a strong connection between UArctic members and industries that can empower students and communities in the North. Finally, I am seeking to promote graduate student development and research. Hopefully this results in a group of doctoral students from across the North who would be at home with their local institution but work as a UArctic cohort, rooting their research within the pan-Arctic region.



HANNE H. CHRISTIANSEN
 UArctic Chair in Permafrost Physical Processes,
 University Centre in Svalbard

I aim to increase the Nordic links within the High Arctic, especially between Greenland and Svalbard. I am also focusing on further developing permafrost education within science and engineering, especially internships and field learning. During my first year as a Chair, I have coordinated a manuscript with 13 Nordic permafrost educating colleagues, mapping out the present status and future needs within permafrost higher education in the Nordics. Another ambition that I am working on is further development of stronger Arctic university collaboration, on the scale of the ambitions of EU universities. This is where UArctic's work and consideration are needed.



DAVID ANDERSON
 UArctic Chair in the
 Anthropology of the North,
 University of Aberdeen

Anthropology has had a controversial history in Arctic communities. However, like my students, I feel that there are strong traditions centering around listening, empathizing, and participatory fieldwork traditions that can make Arctic anthropology one strong path of mutual understanding. I am working together with Indigenous experts to understand the effects of commodity chains, extractivism, and climate change, as well as supporting efforts to revitalize languages and traditions. I am also working to research the positive and negative histories of Scottish emigration to the Arctic.

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ODD JARL BORCH
UArctic Chair in Societal Safety and Security,
Nord University

The spectrum of societal risk areas has increased due to e.g. global pandemics, extreme weather, terrorism, war, and mass immigration. An increased focus on crisis preparedness and emergency response capabilities has been imminent worldwide. At the same time, political collaboration has been hampered by political tension and war. The need for building bridges and joint understanding is greater than ever. In my field, we work to provide a broader perspective on the vulnerability of societies, look into the needs for protection of life, health, and values, and stimulate the preparedness capabilities and efforts within the Arctic. This we do through building cross-border and cross-sector networks for exchange of best practices, and through knowledge accumulation and dissemination, emphasizing critical knowledge gaps.



JAN BORM
UArctic Chair in Arctic Humanities,
University of Versailles
Saint-Quentin-en-Yvelines

As a specialist of travel literature in English, French, and German, my work focuses on textual and visual representations of the Arctic and the circumpolar work of French anthropogeographer Jean Malaurie (born 1922), author of *The Last Kings of Thule* (1955), one of the most widely-distributed books about Greenland in the world. As UArctic Chair and Director of the Malaurie Institute of Arctic Research Monaco-UVSQ, I wish to contribute to the important challenge of putting history and culture back on the center stage in current debates about Arctic issues that do not readily admit the vital role of perception and long-term perspectives.



KAMRUL HOSSAIN
UArctic Chair in Arctic Legal Research and
Education, University of Lapland

The Arctic is a transnationally located region that faces many common challenges across sovereign territories of the eight countries. Its legal status hinges on fragmented national legal systems and applicable international regulations beyond national jurisdictions. My Chair aims at deconstructing presupposed structure and knowledge systems in the face of the dynamic problems and challenges. For example, the melting of glaciers has far-reaching consequences beyond the Arctic for the sustainable process of the Earth's natural system. As Chair, I explore Arctic-specific multifaceted challenges with a critical legal mindset that contributes to eradicating systemic governance challenges and promotes an understanding of the goal of law for achieving a fair, just, and equitable society at large.



TIMO JOKELA
UArctic Chair in Arctic Art, Design and
Culture, University of Lapland

Historically, art and culture have played only a minor role in Arctic research. Artists from the Arctic, including Indigenous ones, have been educated in Western art schools adhering to the traditions of modernism and the Western dualism, at its worst advancing the cultural colonization of the Arctic. Today, the role of art, design, and visual culture education is getting stronger, and methodological tools like art-based research have a lot of interest among researchers of other disciplines. I see my role as a bridge-builder between art and science. Art brings tools to research to process and interpret feelings, perceptions, and tacit knowledge. But art is also a tool to create something together that we can only imagine. That is what the Arctic region and its people need right now, in rapidly changing situations.



PHILIP STEINBERG
UArctic Chair in Political Geography,
Durham University

The Arctic's political geography is not just that of the eight Arctic states and the Central Arctic Ocean commons. It is also the world made by a range of Arctic and non-Arctic actors, from Indigenous peoples with livelihoods within, across, and beyond state borders, to the visions and norms imposed on the region by outsiders, to the dynamic foundation of land, water, and ice that underpins the region's culture, law, and aesthetic expressions. As UArctic Chair, I research how this political geography is affirmed, contested, and undermined by all of those who live in, govern, extract resources from, or pass through the region.



KARL KREUTZ
UArctic Chair in Arctic Ice, Climate,
and Environmental History, Climate Change
Institute - University of Maine

My primary goal as a Chair is to expand and promote field-based Arctic education opportunities for the widest possible student population. At the University of Maine, we lead and/or partner with organizations that are providing amazing opportunities for students in the Alaska and Yukon regions. In each case, students are exposed to an experiential education approach which deepens understanding of the Arctic natural and human landscape. My aspiration is to expand international student exchange in these courses through the UArctic north2north program, and also develop connections with local and regional student communities that leverage UArctic collaborations.



ROLAND KALLENBORN
 UArctic Chair in Arctic Environmental Pollution
 Research, Norwegian University of Life Sciences

Although no significant pollution sources exist in the central Arctic regions, the combination of hemispheric distribution pathways, food web-based accumulation, and high environmental stability of environmental pollutants in cold climate can lead to surprisingly high pollutant levels in Arctic animals and humans. To cope with Arctic pollution, the development of sustainable abatement strategies is required. We urgently need experts in pollution science, management, and circumpolar regulation strategies with a complete understanding of the Arctic as a multifaceted environmental entity. UArctic plays a pivotal role in establishing and coordinating university-level education of environmental experts of tomorrow. I am looking forward to contributing to this development and to a coordinated academic educational program with UArctic as a teaching platform.



TUIJA TURUNEN
 UArctic Chair in Education for Social
 Justice and Diversity, University of Lapland

Since 2015 I have had fruitful cooperation through the UArctic Thematic Network on Teacher Education for Social Justice and Diversity with a lot of successes. Working with policy makers is an important part of the network's activities. During the Finnish chairmanship of the Arctic Council in 2017-2019, we explored the role of teacher education in diversity and equality in the Arctic. In February 2023, our Thematic Network was mentioned as one of the key players in the the United Kingdom's Arctic Policy Framework. My aim is to work for flourishing Arctic communities by developing quality education for children and youth in the Circumpolar North and beyond. As Chair, I can enable these activities, and further encourage and develop high-level international cooperation.



DAVID NATCHER
 UArctic Chair in Water,
 Energy and Food Security in the Arctic,
 University of Saskatchewan

In 2016 the Arctic Council moved to adopt the United Nations' Sustainable Development Goals (SDGs), noting the 2030 Agenda for Sustainable Development is also applicable to Arctic regions. Soon after, the Arctic Council's Sustainable Development Working Group (SDWG) made a commitment to use SDG targets as guideposts for advancing the sustainable development of Arctic regions, but also acknowledged that a better understanding of the potential synergies and trade-offs was needed before regional implementation. In this context, my objective is to evaluate the current state of water, energy and food (WEF) security in the Arctic and make visible the synergies and trade-offs of WEF-related SDGs (2, 6 and 7). Indigenous communities across the Arctic experience a high rate of WEF insecurity, but due to their relatively small populations, their insecurities are too often obscured in national SDG reporting. Ultimately, my goal is to advance WEF security in the Arctic from an aspirational to a transformative policy agenda.

UArctic Chairs work as drivers in their area of expertise for the benefit of the Arctic.



MELODY BROWN BURKINS
 UArctic Chair in Science
 Diplomacy and Inclusion,
 Dartmouth College

From climate change and sustainable development to human rights and international security, the concerns facing us are immense, complex, and daunting. Yet, we always have opportunities to develop more inclusive, equitable, and sustainable paths forward. As UArctic Chair, I will advocate for opportunities in education, research, and practice that develop more inclusive and co-produced knowledge to address science and diplomacy challenges in the Arctic and globally. This includes the active engagement of youth, under-represented communities, and Indigenous Knowledge systems as well as the centering of human rights – including the right to self-determination of Arctic Indigenous Peoples – in Arctic policy and diplomacy. As the Arctic faces rapid climate change, increased pressures for “green energy” resource extraction, and rising geopolitical tensions, I believe this work is foundational for a more just, sustainable, and peaceful Arctic future.



BING CHEN
 UArctic Chair in Marine and Coastal Environmental
 Engineering, Memorial University of Newfoundland

My research has been dedicated to the development of new knowledge and engineering solutions to address critical environmental problems caused by persistent and emerging pollutants and oil spills in cold regions and harsh ocean environments. These problems have gained significant attention and importance worldwide, and we have observed some of the strongest impacts on the Arctic environments and communities. As Chair, I focus on cross-institutional, cross-disciplinary research and education in Arctic marine and coastal environmental engineering to facilitate understanding of these problems and provide sound solutions. A key effort is to form a new program by availing the global R&D and training network on Persistent, Emerging and Organic PoLLution in the Environment (PEOPLE) which I am leading.

My Northern Journey:

Anastasia Emelyanova



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UArctic programs
expanded my
perspectives about
Arctic issues in a
condensed way.

Is UArctic so impactful that it can build the foundation for an entire career? It can for many people, including myself!

I am a Postdoctoral Researcher at the Thule Institute of the University of Oulu, Vice-Lead of the UArctic Thematic Network on Health and Well-being in the Arctic, and Arctic Five Chair in Healthy Ageing and One Health.

UArctic is about education. According to the recently released "Report on graduate education conducted by UArctic Thematic Networks during 2005-2021", almost 11,000 students from 67 different nations have benefited from its courses. I am one of the students graduated from the UArctic Thematic Network guided programs. With a drive to learn more about the Circumpolar North, excellent coordination, supervision, and the thought "a perfect thesis is never finished, and a finished thesis is never perfect," in 2010 I became the first graduate of the (at that time) new Master's degree program Health and Well-being in the Circumpolar Area and in 2015 the first graduate of the PhD program with a degree in Arctic Health from the University of Oulu.

I chose these two UArctic programs, because they were flexible enough to study and gain work experience at the same time. They also expanded my views and perspectives about the Arctic issues in a condensed way through multiple summer and PhD

courses across the Arctic and in Europe, all counted as part of my curricula. I was very privileged to travel and network so much while preparing my thesis and hence building the platform to continue with the post-doc life. I learned that the Arctic is very diverse and different and not homogeneous in all kinds of issues. I learned about Arctic health from a perspective that took into account scientific, Indigenous, and One Health approaches.

The networking and collaborative approach, absorbed from the UArctic community values during studies at the Master's and PhD levels, helped find my own place in the highly competitive academia market afterwards. My work had created enough trust to be invited for a leadership role in the Thematic Network on Health and Well-being in the Arctic, and for member/researcher involvement in the Thematic Network on Ageing and Gender in the Arctic, which I am very excited about. As part of the leadership of the Thematic Network, we try to engage our members in meaningful training about Arctic health, project collaboration, matchmaking, and representing Arctic health in various national and international bodies and unions. We have quite a relaxed and friendly atmosphere, and it is a lot of fun to regularly meet and discuss how we succeeded so far, how we go forward, and what new activities we can do together. We also feel part of a much bigger family of Thematic Network leads.

Another leadership role I hold – Arctic Five Chair in Healthy Ageing and One Health – is run by a different network umbrella, Arctic Five, but it follows the same values that are promoted by UArctic, and in many ways involves also persons from UArctic institutions and Thematic Networks. This position only started in June 2022, but it has so far allowed me to create several networks with senior experts in e.g. population studies, human health, domestic animal and wildlife health, as well as with ecosystem health scientists with whom we also applied for

joint funding. In one network, we promote the One Health approach, because human health, animal health, and ecosystem health are interrelated and interdependent in complex ways. This perspective is prudent at a time when Arctic residents face the complex challenges associated with global climatic and environmental changes. In another network, we address a demographic megatrend of the Arctic – population ageing – and investigate what the current Nordic policies are, and what is needed to create a safer outdoor environment and public spaces for older citizens in the Nordic Arctic. I hope that many publications, joint projects, discussions, and even something as ambitious as the first conference/meeting to discuss Indigenous ageing futures in the Arctic will be the result of me serving in this position.

I am also lucky to be part of two administrative bodies of UArctic. The first one is the Thematic Networks and Research Liaison Office, hosted by the University of Oulu, that integrates the Thematic Networks and Institutes with UArctic members and creates synergies in research and education. Another one is the circumpolar Information Team of UArctic that runs the organization's information and communication services. Both teams feel utterly innovative and dynamic with fresh spirit and new ideas where we learn about various tools, programs, and ways to engage the UArctic community and general public. I would like to find more time to be engaged and contribute even more into the fascinating work these two teams are doing.

A little bit of kindness and respect towards work-life balance goes a long way. Being a mom of two small kids (currently four and one year old), I have received a lot of support and understanding from my colleagues to make it possible to combine a job and much increased family demands. With the appreciation I feel from my co-workers' network, there is nothing that cannot be done in future endeavors, hopefully together with UArctic for many years ahead.

Permafrost Thaw and the Changing Arctic Coast

Science for Socio-economic Adaptation

By LEENA-KAISA VIITANEN
EU Project Manager,
Alfred Wegener Institute

TIINA KURVITS
Senior Specialist,
Ecosystem Management,
GRID-Arendal

LEVI WESTERVELD
Cartographer

Permafrost – generally defined as ground that remains continuously frozen at least two consecutive years – can be found in Earth’s coldest areas: the Arctic, Antarctic, and high mountains. Permafrost is found virtually everywhere in the Arctic, and in fact most human activity in the Arctic takes place along permafrost coasts. In 2017, close to five million inhabitants lived in over one thousand settlements built on permafrost. Climate change and permafrost thaw are now exposing these settlements to rapid change, and by 2050, more than half of the inhabitants will live in settlements that are completely permafrost-free.

The EU Horizon 2020 funded Nunataryuk research project has for the past six years studied what happens to the thawing coast-

al and subsea permafrost. It has examined what risks the permafrost thaw poses to coastal infrastructure, Indigenous and local communities, and people’s health, and what the long-term impacts of permafrost thaw are on global climate and the economy.

The results show that impacts of permafrost thaw are manifold and experienced in very different ways depending where in the Arctic people live. While people in all areas of the circumpolar Arctic perceive permafrost thaw as a challenge, it varies greatly how problematic they perceive the thawing ground to be for their own settlement or to their own lives. It also varies significantly what aspects of their lives they consider permafrost to impact, as life takes very different forms depending on the geographical realities of their location.



Photos: Weronika Murray

Permafrost thaw in Qikiqtaruk Island, Canada.

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Climate change and permafrost thaw are now exposing Arctic settlements to rapid change.

In order to give a glimpse into the world of permafrost and the lives of people living on it, the Nunataryuk project has been working on an *Arctic Permafrost Atlas* that will compile together all the results of the project as well as other material from permafrost experts around the world. In addition to the latest scientific information, the publication will give voice to the Indigenous peoples of the Arctic in the form of portraits that will allow understanding of the changing Arctic permafrost also from the perspective of local communities and peoples. This print and digital Atlas will be a highly visual product. Covering over 150 pages, it will include a set of unique new maps on different aspects of permafrost and the impacts of permafrost thaw.

A map is just a map, you might think, usually showing places and things that have

occurred in the past. But a map can be so much more than just a way to project locations and data, as we try to show with this Atlas. A map can change our perception of events – show realities and chains of changes that we did not understand that existed, and, in the best case scenario, even spur us into action before we reach the hypothetical future.

The *Arctic Permafrost Atlas* will be published online in spring 2023 and be publicly accessible at the Nunataryuk project website at Nunataryuk.org. The online publication will be accompanied with downloadable posters, individual pages, and graphics of the Atlas, so that the content can be re-used and repurposed in presentations, teaching, and any other relevant science communication activities.

Before

By TORBEN R. CHRISTENSEN
Professor, Aarhus University /
University of Oulu

EFREN LÓPEZ-BLANCO
Post-doc, Researcher,
Aarhus University /
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RIKU PAAVOLA
Lead of the UArctic Thematic
Network on Communicating Arctic
Research, Station Manager,
Researcher, Oulanka Research
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A Research Training Network at
the Frontier of Environmental
Monitoring in the Arctic

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Our PhD school tied research components together as a playground for the students' own projects.



Greenhouse gas (GHG) exchanges in northern wetlands have been studied intensively in many northern environments during recent decades. In boreal and subarctic wetland environments, particular attention has been drawn to methane emissions as a strong greenhouse gas and the CO₂ exchange in the form of net ecosystem exchange. This is due to the large stocks of carbon stored in the form of peat. These reservoirs can potentially lead to increased GHG emissions to the atmosphere if climate change improves conditions for decomposition over CO₂ uptake by plants.

Over the past years we have established the BEFLUX network and teaching portfolio with UArctic project funding from the Kingdom of Denmark. This effort has its background in a wide range of work from multiple sites on quantifying and measuring GHG exchanges that we have been supervising. We have operated major flux measurement programs in several parts of Fennoscandia and Svalbard, and in particular in Greenland further contributing to the Greenland Ecosystem Monitoring (GEM) program measuring GHG fluxes. The GEM program includes monitoring information of a wide range of key ecosystem parameters with time-series extending up to 27 years.

At Oulanka Research Station in eastern Finland, very little GHG flux work has been carried out the last few years. However, a novel GHG measurement program was initiated in 2022 at the Puukkosuo fen near the station, building on experience from the above-mentioned efforts in Greenland. In addition to the unexplored potential for GHG flux studies, a reindeer enclosure was established in 2019, from which ecosystem effects are likely to be observed over the upcoming years. Grazing patterns have in recent years been identified as a major driving

factor for vegetation dynamics and in turn GHG exchanges in northern wetlands. In the case of Oulanka, the reason is the unnaturally large reindeer population.

This framework has also turned out to be an ideal setting for research training. We organized our first PhD school in Oulanka in September 2022 where many of the mentioned research components were tied together as a playground for the students' own projects. We had eighteen students from eleven countries working over a two-week period with data, models, and their own hands-on projects with different aspects of GHG exchanges and other ecosystem responses, comparing results from across the boreal and low- to high-arctic ecosystems.

The course provided training in different disciplines ranging from plant and population ecology to biogeochemistry. Some of the know-how and positive experiences gained during the course are already finding their way to the regular teaching program of the University of Oulu in the form of a master-level course. In a follow-up course, also supported by UArctic, the BEFLUX concept will be extended to students who will look at how these same key environmental variables interact with local communities around. It will hence bring the pure natural science-based environmental monitoring into a context of social scientific considerations for local communities and their involvement and interaction with science.

With the first course, we believe we have already achieved the central goals thanks primarily to the excellent and devoted students. We will continue the effort with the new course in Greenland and encourage further UArctic funding for supporting this type of research training across different high-latitude locations making joint use of long-term monitoring data.

the FLUXes

Exploring the Social Problem of Homelessness in Arctic Urban Settings

By STEVEN ARNFJORD
Associate Professor,
Head of Centre for Arctic Welfare,
Ilisimatusarfik/University of Greenland

KEVIN PERRY
Associate Professor,
Ilisimatusarfik/University of Greenland

Funded by UArctic's north2north program, we travelled from Nuuk, Greenland, to Anchorage, Alaska, in November 2022 to examine homelessness. In Nuuk, we are both involved in researching and working directly with vulnerable and homeless adults in a local outreach program in the form of a soup kitchen.

Over the previous decades, homelessness in Greenland and Alaska has increasingly become a cause of great concern amongst health and social care professionals. A forthcoming volume on *Housing, Homelessness, and Social Policy in the Urban North* from the University of Toronto Press focuses exclusively on this topic.

The research literature identifies critical interconnections between hidden and visible homelessness. For example, the consequences of urbanisation and centralisation in northern towns reveal chronic housing shortages. Moreover, there needs to be more affordable housing and plans to build such housing or alternatives.

Why Alaska and Anchorage?

Inspired by reading about Alaska and Anchorage and homelessness and collaborating with authors in the forthcoming book, we wanted to look at the service providers in a context with similar Arctic weather conditions. First and foremost, we were curious to learn how homeless people use and utilise the public spaces around Anchorage. Secondly, to gain inspiration, we wanted to learn about the services dedicated to tackling homelessness. Finally, we wanted to connect with researchers at the University of Alaska Anchorage (UAA) to share experiences and explore the possibilities for future collaboration.

COVID-19 delayed our planned trip to Anchorage in 2020 until November 2022. Before departure, we planned to meet relevant actors in Anchorage (e.g. homelessness networks and non-profit organisations). We also arranged to do some guest teaching while in Anchorage. In all this, the faculty at UAA was supportive and helpful with logistics and establishing connections.

Major Differences

Anchorage is a municipality located within the traditional homelands of the Dena'ina Athabaskan people. The municipality covers almost 5,200 km² and has a population of over 295,000. Nuuk is the capital city of Greenland and has nearly 20,000 inhabitants. Nuuk is also the largest city in Greenland, located in the encatchment area of Sermersooq Municipality, with 24,000 inhabitants and a total area of 635,600 km². The most profound difference between Anchorage and Nuuk concerns social welfare and protection. The crucial difference derives from different ways of thinking, attitudes, and ideologies. In the USA, the system is a public-private mix that relies heavily on government-funded programs. However, private or non-profit actors provide different services. In Anchorage, the private sector and many religious organisations try to tackle homelessness with government and private funding.

In contrast, Greenland has a universal welfare system where primarily the local gov-



ernment provides welfare and social security and is supported by some faith-based organisations concerning provision for the poor and homeless. In Anchorage, there seems to be a general acceptance of the social problem of homelessness. However, what is noticeable is the need for more local government provisions. Anchorage has a network of engaged non-profit organisations (NGOs) and faith-based organisations (FBOs) that provide homeless people with social, health, educational and housing services. Unfortunately, the non-profit area mainly operates with unqualified workers – some receive on-the-job training. Perhaps only employing unqualified workers is a recruitment strategy to decrease costs, or perhaps it is a symptom of a lack of professional job seekers. Nevertheless, the unqualified workers seem committed to their work and do their best with the resources they have.

Results

Our journey to Anchorage has been invaluable. Experiencing homelessness and the

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Homelessness in Greenland and Alaska has increasingly become a cause of great concern.

various measures tackling it in Anchorage gives us different perspectives to compare with the situation in Nuuk. Furthermore, through the effort of faculty at UAA, we had field trips with different non-profit service providers and policymakers. In our view, you can only thoroughly learn about social problems like homelessness in Arctic urban settings by physically being there.

During this trip, we built relationships with service providers and fellow scholars at UAA. Consequently, we decided to increase Ilisimatusarfik’s Centre for Arctic Welfare

engagement in the UArctic Thematic Network on Social Work. We are also working on smaller scientific outputs in an international collaborative journal. Moreover, we aim to introduce empirical findings from this trip to our students at Ilisimatusarfik. Finally, we are editing video reflection talks about what we learned during our daily field trips in Anchorage – these will become three short online videos.

Thanks to Diane Hirshberg and the Department of Social Work faculty at UAA for their help and UArctic and the Greenlandic Research Council for the grant.

Young People's Stories on
Climate



Still from *My Someday* (2021) by
Shak'shaani Éesh / Konrad Frank



Change

By TIMO JOKELA

Lead of the UArctic Thematic Network on Arctic Sustainable Arts and Design, UArctic Chair in Arctic Art, Design and Culture, Professor, University of Lapland

MAYA SALGANEK

Filmmaker, Associate Professor, University of Alaska Fairbanks

The UArctic Thematic Network on Arctic Sustainable Arts and Design (ASAD) has actively shared experiences and examples of art engaged with Arctic issues, not only among universities but also outside them. In November 2022 such an event took place in Finland in Levi, where Finland's national public broadcasting company YLE organized the Aurora Future Event, a summit where experts and policy makers discussed climate change. The Arcta Fast project coordinated by the University of Lapland produced a diverse art program for the event. The circumpolar cooperation of the ASAD network got visibility through young people's short films and video installations from Finland and Alaska that were shown as part of the program.

The video installation *Minun Paikkani - Mun Baiki - My Place* made by young people from Finland was on display on a huge outdoor screen. Through photos, videos, and text, the installation told about the youth's favorite places and what they would like to keep in them. The installation coordinated by PhD students Korinna Korsström-Magga and Aki Lintumäki was part of the Kone Foundation funded art-based project On the Frontline of Climate Change which examines the importance of art in dealing with the young people's climate anxiety. The presence of nature in art activities opens up thoughts, insights, and discussion on values, and art as a medium creates the means for participating in social discussion.

The second entity on display, *Stories for Climate Justice*, came from the University of Alaska Fairbanks in conjunction with Native Movement, a non-profit focusing on grassroots mobilization rooted in decolonization. Produced during the inaugural Alaska Native Filmmakers Intensive, *Stories for Climate Justice* presented a selection of films by Indigenous filmmakers examining how they witness and respond to the impacts of climate change on their homelands and communities. Each filmmaker examined the interconnection between their own personal histories, issues impacting their communities, and generational connections to place as they reflected on their relationship with the lands and waters of Alaska.

Indigenous filmmakers practice narrative sovereignty when they tell their own stories rooted in cultural knowledge, and often directly to their own communities. By centering Indigenous voices and concerns, more-than-human kinship, and intergenerational knowledge shared through oral history, these films present an alternative to dominant narratives of climate change typically shown in mainstream media.

It is essential that young people in the Arctic, especially in Indigenous communities, have platforms to share the impacts of climate change on their cultures, communities, and lands. These cinematic presentations are reflections of the efforts across the Arctic to recenter our understanding of - and fight against - the climate crisis through narrative stories of love of place and connection to the land.

and Justice

Arctic Youth:

Key Actors in Keeping Northern Communities Vibrant

By PATTI BRUNS
Secretary General,
Arctic Mayors' Forum

The Arctic Mayors' Forum is a new actor on the Arctic governance front. Mayors first met in Alaska in 2017 and signed a declaration outlining the need for communities to be continuously involved in Arctic policy and decision-making processes. Two years later in Akureyri, the Arctic Mayors' Forum (AMF) was formally established with the mission to ensure the participation of mayors and elected community leaders to safeguard the values, goals, and interests of those who live in the Arctic.

We achieve our mission by providing an open and collaborative platform for our members, including Indigenous leaders from around the Arctic. By providing an inclusive forum for debate and collaboration, we seek to move talk into action with relevant stakeholders including the EU, regional bodies, NGOs, think tanks, and academia including the University of the Arctic. Our common goals of sustainable economic development, strengthening the resilience of Arctic communities, and ensuring that young people are attracted to living and working in the North cannot be achieved by working in silos.

Local leaders are the first point of contact for residents regardless of age. This is no less true for young people born in the Arctic, or for those who choose to move to the Arctic to study, work or play. We all agree that Arctic youth need more input into the political decisions that affect their everyday lives. AMF provides a platform and many different opportunities for meaningful youth engagement.

On the margins of the Arctic Circle Assembly in October 2022, the first Arctic Policy Hackathon, co-organized by the Arctic Mayors' Forum, the Gordon Foundation, and the Canadian International Arctic Center, brought emerging leaders from across the region to develop policy recommendations on the topic of Arctic food sovereignty. Fourteen young Arctic leaders – including two from AMF member cities, Laura Suorsa from Oulu and Daniel Smirat from Luleå – developed an impactful set of recommendations on food sovereignty which were presented at the Arctic Circle Assembly session *Food Sovereignty: Solutions in the Arctic*. Avaaraq Olsen, Mayor of Sermersooq, Greenland and AMF member, participated in the presentation of the recommendations. Participants from the Hackathon have gone on to promote the recommendations through radio, social media, and meetings with officials.

Also during the Arctic Circle Assembly 2022, AMF organized the session *Youth in the Arctic – Creating Attractive Living Conditions*. This session gathered AMF mayors and young people to discuss how Arctic municipalities can remain competitive through attractive living conditions as a part of local strategies to prevent youth emigration and brain drain. The session was well attended with active audience participation. Laura Suorsa (Oulu), Daniel Smirat (Luleå), and Patricia Johnson-Castle (Newfoundland and Labrador) provided opening remarks. They were followed by a conversation with Mayors Carina Sammeli (Luleå), Ulla-Kirsikka Vainio (Rovaniemi), Ásthildur Sturludóttir (Akureyri), Mirja Vehkaperä (Oulu), and Avaaraq Olsen (Sermersooq).

“ Arctic youth need more input into the political decisions that affect their everyday lives.

Sharing of experiences and expertise on the development and attractiveness of northern communities and youth involvement between the members of the Arctic Mayors' Forum provides new insights and opportunities for collaboration. Indeed, it can become a motor for the development of the Arctic region.

For example, the Municipality of Luleå regularly conduct surveys (LUPP and Ipsos) to capture what young people and young adults think about their future in Luleå and what is important for them. The Municipality also organizes meetings called “Meet Luleå” where students, politicians, civil servants, and others gather around a cup of coffee to network and talk about what is happening in Luleå. Similar activities take place in other AMF municipalities in different formats.

The Arctic Mayors' Forum remains committed to hearing the voices of our youngest residents - to give the time and space necessary to truly value the contributions of our young Arctic leaders, and to ensure that the Arctic remains a place they long to call home.

Photo: Marie Hald



Interview with Aaja Chemnitz

A New Voice in UArctic

By FRANCESCA STOPPANI
Freelance Writer,
Former UArctic Intern

Supporting education in the Arctic is one of the main focus areas of UArctic. We are also committed to making the organization more participative, inclusive, and accessible, all with shared voices.

One of the newest voices in UArctic is our Board member Aaja Chemnitz. She is an eight-year-long member of the Danish Parliament on behalf of Inuit Ataqatigiit, the Greenlandic party, where she covers 32 areas on behalf of Greenland. While it is now her third term at the Danish Parliament, she previously was Greenland's spokesperson for MIO – National Advocacy for Children's Rights – as well as an Associate Expert of the United Nations working with Indigenous peoples' rights.

We invited Aaja for an interview where we discussed some of the current issues and future opportunities related to education in the Arctic.

What do you feel are the most important challenges for education in the Arctic? How do you envision UArctic contributing to solving them?

"It is especially important for small communities to have well-educated young people and to have education on a high level in our home country," begins Aaja. As someone who has received education both in Greenland and Denmark, she has noticed there are a lot of differences in the way that their nationals are educated. "It was very important for me to be educated back home, but it was also necessary to travel abroad and see how the educational systems vary."

Studying away from home can allow us to get a better sense of our own country and at the same time compare different ways of operating. "A lot of Greenlandic students go to Denmark to study. While 53% of them return to Greenland after graduating, a big percentage continue to live in Denmark. This is something we need to address. It is crucial for Arctic countries such as Greenland to have well-educated young people returning to their communities to facilitate nation- and identity-building."

From a Greenlandic point of view, it is a valuable part of education to see things from a different perspective by studying abroad. "However," continues Aaja, "it is perhaps most important to see the similarities that we have within the Arctic community." UArctic is providing that possibility together with a lot of other partners, involving both students and educators through exchanges, seminars, webinars, and events. These practices ensure that both the quality and the diversity of education are strengthened.

What is one change you would like to see in education to better meet the needs of the Arctic?

"I think the Arctic is very diverse; all eight Arctic states are very different compared to each other. Therefore, there is not one thing I can say that applies to all of them," says Aaja. From the Greenlandic perspective, she believes that even more people should pursue and finish their education, whether they are studying abroad or studying in Greenland. It is influential not only for the individuals but also for the future of the whole society and community. "Even

though we might be few in numbers, we are so valuable!”, Aaja exclaims.

The same applies to many other small Arctic communities. Understanding how we can make them more attractive for well-educated people, including those who would like to pursue a PhD path, needs to be a priority in the next few years. “Just to give an example, my stepson is studying medicine, and he is the chair of the medical students from Greenland in Denmark. Even though there might not be a lot of them, they are the future of the healthcare system in Greenland. Giving them a chance and a reason to practice and invest in their own country is the best thing we can do for them, to ensure the future of Greenlandic society is in good hands,” Aaja explains.

“Some people say that we become different when we get an education. They say we’re not as Indigenous as we used to be.” That is because a lot of the education is in a different language and within the parameters set by a different culture. “We need to praise that choice and acknowledge the struggle it is to study and to become better in different issues, instead of undermining the self-identity of members of our community.”

Are there any innovations in Greenland’s schools and universities that might be good for other northern countries to look at?

“I think connecting the business life and academia is something that is at an early stage in Greenland and would be fruitful to develop further – making sure that there

are more PhDs connected to different businesses, so they can provide solutions to what the businesses are asking for,” states Aaja. A concrete example is a new education path, a biology program, that is being established at Ilisimatusarfik, the University of Greenland. This new program implements traditional ways of living and focuses on food security in Greenland. It has been subsidized by a fund that supports Indigenous communities in the endeavor of promoting education in the Arctic. “It is very encouraging when we see new things being produced that function as a bridge between the Indigenous knowledge and the more widely accepted knowledge based on hard science. That is definitely something that other countries should look up to.”

Building bridges between different fields and areas in small communities, and thereby making innovation come to life, has a lot of potential for both Arctic and non-Arctic communities. “There’s so much knowledge that we don’t necessarily have on climate change and also on societal issues. Research can help us find solutions for those,” she adds. “Usually, when we talk about the Arctic, we talk about the problems and the consequences of past happenings. I think it would be much more useful to look into the Arctic as something where you can

find solutions, maybe innovative solutions, to some of the issues that we are dealing with such as natural fires, avalanches, and even tsunamis. There are so many areas that we’re not covering, and we need to strengthen collaboration towards finding those solutions.”

To conclude, what gives you hope?

“The youth give me hope. Even though we often hear and say that there are so many difficulties and challenges in the Arctic, there is also so much hope to be found in the fact that there are so many young people from the Arctic willing to find and sometimes create their own solutions. They are just loving to be with other students from around the Arctic, to compare their experiences and unite forces.”

“Every year, when we have financial negotiations at the Danish Parliament, we are always very much aware of the work that UArctic is doing for students in Greenland and, at the same time, promoting exchanges for staff between the various universities in the network. It has been very important for me to support the work that UArctic has been doing for students all over the Arctic, and this, as well, gives me a lot of hope.”

“

It is especially important for small communities to have well-educated young people.

For a stronger North

Building knowledge for a strong,
engaged and dynamic North

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a sustainable
future!**

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